



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,590	08/19/2003	Hiroyuki Kinugawa	Q76939	2939
23373	7590	08/31/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			RIDDLE, KYLE M	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 08/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,590

Applicant(s)

KINUGAWA, HIROYUKI

Examiner

Kyle M. Riddle

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6,8-10 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 4,7 and 12-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 5, 6, 8-10, 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Noguchi et al. (U.S. Patent 5,826,552).

Re claims 1, 3, 5, 9, 10, 16-19, Noguchi et al. disclose a variable valve timing device comprising:

- an outer rotor 18 rotating synchronously with a crank shaft (column 4, lines 25-30);
- an inner rotor 22 fixedly mounted on one end portion of the cam shaft 12 for relative movement or rotation between the cam shaft 12 and the outer rotor 18 (column 4, lines 33-38);
- a locking pin or member valve 44 slidably fitted in retracting bore 40 of outer rotor 18 and, when aligned in a predetermined position with received bore 48 of inner rotor 22, locks the relative rotation of the inner and outer rotors 22, 18 between a most advanced position and most lagged position (column 5, lines 25-34 and Figures 2-4);
- a piston 60 as a closing member slidably fitted axially in receiving bore 48 to eject or exclude the locking valve 44 against the urging force of spring 46 under the pressure of oil (hydraulically slidable) supplied to the receiving bore 48 (column 5, lines 37-44 and Figures 2-4);

Art Unit: 3748

- an engaging hole formed within receiving bore 48 between locking valve 44 and piston 60 (Figure 4B), the closure of the engaging hole creating contact between locking valve 44 and piston 60 resulting in allowed relative rotation of the inner rotor 22 with respect to the outer rotor 18 (column 6, lines 50-56 and Figures 3 and 4D).

Re claim 6, Noguchi et al. disclose a separate passage 50 supplying hydraulic pressure to the closing member or piston 60 which is different than delay and advance angle hydraulic passages 54, 56 for relative rotation (column 5, lines 30-39, column 6, lines 27-29, lines 44-49, and Figures 2 and 3).

Re claim 8, Noguchi et al. disclose some oil entering between the piston 60 and the locking valve 44 via passage 62 from intermediate passage 54a, the resulting oil pressure ejecting the locking valve 44 allowing relative rotation of the inner rotor 22 and the outer rotor 18 during low hydraulic pressure (column 6, lines 32-41 and Figure 4C).

Allowable Subject Matter

3. Claims 4, 7, 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claim 11 is allowed.

Response to Arguments

5. Applicant's arguments filed 15 July 2004 have been fully considered but they are not persuasive.

6. On page 18 of the remarks, first full paragraph, applicant argues that piston 60 does not contact the lock valve 44 and that fluid between the two members is what ejects the lock valve

Art Unit: 3748

44 from the receiving bore 48. The examiner disagrees. The piston 60 is clearly shown in Figure 3 contacting the locking valve 44 to eject it from the receiving bore under oil pressure supplied through passage 50 (column 5, lines 37-43 and Figure 3).

7. Applicant's arguments, see page 19, first paragraph, filed 15 July 2004, with respect to the rejections of claims 6, 7, and 9 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made with reference to claims 6 and 9 in view of Noguchi et al. Claim 6 only requires separate oil passages for the relative rotation of the rotating members and the locking mechanism, which is clearly cited by Noguchi et al. as described above. Claim 9 requires the engaging or receiving hole to be formed between a most advanced or lagged position which is also clearly shown in Noguchi et al. (see Figures).

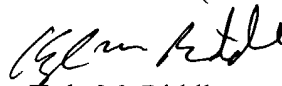
Communication

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (703) 306-3409. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

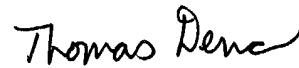
Art Unit: 3748

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kyle M. Riddle
Examiner
Art Unit 3748

kmr



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700